



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/583,417 | 04/26/2007 | Adrien Dromard | 1022702-000308 | 3689 |

21839 7590 11/05/2009
BUCHANAN, INGERSOLL & ROONEY PC
POST OFFICE BOX 1404
ALEXANDRIA, VA 22313-1404

| |
|----------|
| EXAMINER |
|----------|

RUMP, RICHARD M

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1793

| | |
|-------------------|---------------|
| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

11/05/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/583,417 | Applicant(s) DROMARD ET AL. | |
| | Examiner Richard M. Rump | Art Unit 1793 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-19 and 21-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-19 and 21-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/17/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

Claims 15-19, 21-45 are pending and presented for examination. Claims 31-45 are new. The obviousness type double patenting rejection and the rejection of claims 15-30 over Valero are withdrawn.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 15-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chevallier.

Regarding claims 15-19, 21-25 & 31-45, Chevallier et al. disclose a precipitated silica with the following characteristics:

- CTAB of 100-200 m²/g (col. 1 lines 35-36);
- DOP oil uptake of >250 (col. 1 lines 32-34);
- pH of 3.5-9 (col. 1 lines 30-31);
- residual anion level ≤3% (col. 1 lines 40-42);
- mean particle size of ≥20 microns (col. 1 lines 37-39);
- a median particle diameter after deagglomeration under ultrasound of ≤35 microns (col. 3 lines 17-19);
- BET of 90-280 m²/g, such that the BET-CTAB difference could be ≤30 m²/g or ≤10 m²/g (col. 1 lines 50-54);

Art Unit: 1793

- a packing density of ≥ 0.17 g/ml (tamped) or ≥ 0.13 g/ml (untamped) (col. 1 lines 62-67);
- in the form of a powder (col. 6 lines 10-16).

Chevallier et al. differ from the instant invention in that they disclose a CTAB specific surface area range, a DOP oil uptake range, a pH range, a residual anion level range, a mean particle size range, a BET specific surface area range, and a packing density range that overlap and/or lie within the ranges of the instant invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have produced** a silica with a CTAB specific surface area, a DOP oil uptake, a pH, a residual anion level, a mean particle size, a BET specific surface area, and a packing density as per the instant invention, as per Applicants' claims 15-23, **because** a prima facie case of obviousness exists in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5].

Chevallier et al. differ from the instant invention in that they do not disclose the water uptake of the silica.

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have expected** the silica of Chevallier et al. to have a water uptake similar

Art Unit: 1793

to that of the instant invention, as per Applicants' claims 15-17, **because** "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP 2112 [R-3] I. Because the silica of Chevallier et al. and of the instant invention have similar physicochemical properties and the water uptake is determined by said properties, the water uptake of the silica of Chevallier et al. must be the same as that of the instant invention. Furthermore, both silicas are made by substantially the same process.

Chevallier et al. differ from the instant invention in that they disclose a mean particle size that is slightly greater than that of the instant invention.

It would have been obvious to one of ordinary skill in the art at the time the invention was made **to have produced** a silica with a slightly smaller particle size than that of Chevallier et al. as per Applicants' claim 19, **because** a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

Chevallier et al. differ from the instant invention in that they disclose a silica concentration of the starting vessel heel that overlaps and/or lies within the range of the instant invention.

Art Unit: 1793

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have started** with a silica concentration as per the instant invention, as per Applicants' claim 25, **because** a prima facie case of obviousness exists in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5]. Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Since some of these conditions overlap that instantly claimed, a *prima facie* case of obviousness exists, absent a proven unexpected result (See MPEP 2144.05 R-5).

Chevallier et al. disclose a process for preparing the above silica comprising:

a) producing a starting vessel heel with a temperature of 80-100°C, or $\geq 90^\circ\text{C}$, comprising water and a silicate, with a concentration of silicate in said vessel heel, expressed as SiO_2 equivalent, of ≤ 15 g/l (col. 4 lines 24-27);

Art Unit: 1793

- b) adding, at a temperature of 80-100°C, or 90-100°C, an acidifying agent to bring the pH of the medium to a value of 7-8 or 7.3-7.8 to form a medium (col. 4 lines 31-32, col. 5 lines 31-33);
- c) in the medium thus produced in stage b, carrying out, at 80-100°C or 90-100°C, a simultaneous addition of a silicate and of an acidifying agent, with a respective amounts of silicate and of acidifying agent added over time being specifically chose so that throughout the duration of the addition, the pH of the reaction medium remains 7-8 or 7.2-7.8 and the concentration of the silicon in the medium remains ≤ 35 g/l;
- d) adding, at a temperature of 80-100°C, or 90-100°C, an acidifying agent to the medium obtained on conclusion of stage c so as to bring the medium to a pH of 3-6.5 to obtain an aqueous silica dispersion;
- e) filtering the aqueous silica dispersion obtained in stage d to obtain a filtration cake;
- f) drying the filtration cake produced on conclusion of the stage e, optionally washing it beforehand; and
- g) **optionally** milling or micronizing the silica obtained on conclusion of stage f, wherein the filtration cake exhibits, prior to the drying of it in stage f, a loss on ignition at 1000°C of greater than 82% or 84-88% (col. 3 lines 22-55, col. 3 lines 40-41 and lines 59-65, col. 4 lines 50-65, *Applicants' claim 25*).

Chevallier et al. differ from the instant invention in that they disclose a reaction temperature range that overlaps and/or lies within the range of the instant invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have selected** a reaction temperature as per the instant invention, as per

Art Unit: 1793

Applicants' claim 25, **because a prima facie case of obviousness exists** in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5]. Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Chevallier et al. differ from the instant invention in that they disclose a pH range of steps b-d that overlaps and/or lies within the range of the instant invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have selected** a pH as per the instant invention, as per Applicants' claim 25, **because a prima facie case of obviousness exists** in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art". *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, "[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima

Art Unit: 1793

facie case of obviousness.” *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5].

Further regarding claim 25 (It is noted that the limitation is an optional requirement in instant claim 25!) and also regarding claims 44-45, Chevallier et al. differ from the instant invention in that they disclose a loss on ignition at 1000°C that overlaps and/or lies within the range of the instant invention. Namely that a loss amount of preferably greater than 82% is disclosed (column 5, line 58).

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have expected** the silica of Chevallier to have a loss on ignition similar to that of the instant invention, as per Applicants’ claim 25, **because** a prima facie case of obviousness exists in the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art”. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Furthermore, “[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness.” *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). See MPEP 2144.05 [R-5].

Chevallier et al. differ from the instant invention in that they do not disclose the concentration of the silicon in the medium during step c.

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have expected** the silicon concentration of the medium during step c to be similar to that of the instant invention, as per Applicants’ claim 25, **because** differences

Art Unit: 1793

in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical.

Chevallier et al. differ from the instant invention in that they disclose milling and then drying the silica, instead of drying and then milling.

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have changed** the order of the process steps such that the silica were dried and then milled, as per Applicants’ claim 25, **because** the selection of any order of performing process steps is *prima facie* obvious. See *Ex parte Rubin*, 128 USPQ 440 (Bd. App. 1959), *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946), and *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930). See MPEP 2144.04 [R-6] IV C.

Regarding claims 26-28 & 30, Chevallier et al. differ from the instant invention in that they do not disclose the use of the silica in shoe soles, as a reinforcing filler in a matrix, in a carrier for liquids, or in battery separators.

It would have been obvious to one of ordinary skill in the art at the time of the invention **to have used** the silica of Chevallier et al. in shoe soles, as a matrix reinforcing filler, in a liquid carrier, or in battery separators, as per Applicants’ claims 26-

Art Unit: 1793

28 and 30, **because** “[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art’s functioning, does not render the old composition patentably new to the discoverer.” *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). See MPEP 2112 [R-3] I.

Regarding claim 29, The silica may be used as a thickening agent in a dentifrice composition in the paste or gel form (col. 6 lines 17-44).

Response to Arguments

Applicant's arguments filed 17 August 2009 have been fully considered but they are not persuasive.

Applicant's argument that the water uptake will be different between Chevallier and the instant application due to the fact that the ignition loss is different, this argument is not persuasive in any form provided. Chevallier clearly overlaps that range instantly claimed, applicants have not provided an unexpected result, and on top of all of that the recitation of this aspect of the process is found within an optional limitation! Accordingly it is quite proper to conclude that the method of making is similar and as such similar material properties are doable absent a clear unexpected result. As such the requirements outlined in *In re Gamero* are met.

Conclusion

Claims 15-19 and 21-45 are rejected.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard M. Rump whose telephone number is (571) 270-5848. The examiner can normally be reached on Monday through Friday 7:00 AM-4:30 PM (-5 GMT).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571)272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. M. R./
Examiner, Art Unit 1793

/Timothy C Vanoy/
Primary Examiner, Art Unit 1793